

## **REMARKS**

Claims 1 to 25, 30 to 37, and 39 to 51 are pending. Claims 1 to 19 and 44 to 51 are withdrawn. Claims 26 to 29 and 38 are cancelled without prejudice or disclaimer. Claims 20, 31, and 37 have been amended. No new subject matter has been added by the amendment. To the extent the Examiner requires cancellation of any of the withdrawn claims, Applicants reserve the right to file one or more divisional applications to the cancelled subject matter.

### **Rejection under 35 U.S.C. § 112 ¶ 2 and Amendment of Claims 20, 31 and 37**

Claim 28 is rejected as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Applicants respectfully traverse and submit that a composition that includes water may still be soluble in water. However, solely to advance prosecution, Applicants have amended claim 20 to more clearly point out that which Applicants regard as the invention. The amendment is supported throughout the detailed description and original claims, and renders the rejection of claim 28 moot. As a consequence of the amendment, claims 31 and 37 have been amended to ensure proper dependency.

Applicants request the entry of the amendment under 37 C.F.R. § 1.116(b) because the amendments to the claims either cancel claims, comply with requirements of form expressly set forth in a previous Office Action, or present the rejected claims in better form for consideration on appeal.

### **Rejection under 35 U.S.C. § 102(b)**

Claims 20-24, 26, 30-33, 35, 37, 39-41, and 43 are rejected under 35 U.S.C. § 102(b) as being anticipated over Kobayashi et al. (US Patent 5,658,668).

Contrary to the position taken in the Office Action, nowhere in Kobayashi is it taught that a carboxylic acid of formula  $\text{HCO}_2\text{H}$  or  $\text{alkyl-CO}_2\text{H}$  may be used in combination with an epoxy resin. Instead, Kobayashi (at column 8 beginning at line 59) suggests that any one of a list of accelerating agents selected from at least 9 agents (there are many more inferred given the general term “metallic oxide agents” is a part of that list) **may** be used. No further

guidance is provided as to when and/or with which resin particles any of the above accelerating agents may be used. Further, there is no teaching of the use of acetic acid as an accelerating agent in any of the provided examples with any resin particles.

In addition, Kobayashi does not teach or suggest substantial water solubility of the composition. Rather, Kobayashi specifically teaches emulsions, i.e., water insolubility, in his disclosure. Kobayashi uses water-insoluble resins (col. 7, lines 43-44) and coats them with a copolymer prepared by free-radical polymerization of, for example, acrylic acid and an ester derivative thereof. Complete coating is required to avoid undesirable gelation of the coated resin prior to use within a treating liquid. At no time is the accelerating agent in contact with the resin prior to final heat treatment to provide the corrosion-resistant film. To the extent that any water is present from the treating liquid to dissolve the resin in the presence of an accelerating agent (and only to the limited extent when that agent is acetic acid), the presence of water is of extremely limited duration. Any water would be partly volatilized at the 300 to 700 degree Celsius treatment/film forming temperature taught by Kobayshi (see col. 9, lines 21-26). During this time the resin itself is rapidly polymerizing, thus further minimizing the likelihood of any resin/acetic acid solubility in residual water from the treating liquid.

Thus, Applicants respectfully submit that there is no reasonable argument for inferring inherent water solubility properties in the composition of Kobayshi.

For at least the reasons set forth above, Applicants request that the rejection of Claims 20-24, 30-33, 35, 37, 39-41, and 43 under 35 U.S.C. § 102(b) be withdrawn.

#### **Rejection under 35 U.S.C. § 103(a)**

Claims 25, 28, 34, 36, and 42 are rejected under 35 U.S.C. § 103(a) as obvious over Kobayashi in view of Uramoto et al. US 4,642,011 or Kutsuna et al. (US 2002/0120063). Applicants respectfully traverse.

As noted above, Kobayshi does not teach, disclose, or suggest the substantial water solubility of epoxy resin and carboxylic acid in water. It fails to suggest intimate contact between the two components (epoxy resin and carboxylic acid) at any time before the substantial polymerization of epoxy resin takes place. Neither Uramoto or Kutsuna are sufficient to cure the lack of disclosure or suggestion concerning the substantial solubility of

the epoxy resin and carboxylic acid from Kobayashi that is recited in the claims of the present invention.

The Office Action asserts that Uramoto teaches the equivalence of the specific epoxy resins of present claim 33. However, the Office Action is not free to pick and choose from each of the references only those teachings desired. The teachings in each reference must be each taken as a whole.

In this case, Uramoto requires the presence of organic silicon compounds in addition to the epoxy resins. Thus, the assertion by the Office Action that Uramoto teaches that the specific epoxy resins of present claim 33 are equivalent is limited to systems where organosilicons are also present. Further, Uramoto by inference teaches away from the presence of water at col. 4, lines 32-41, merely stating that small amounts of water may be present, but notes that water reacts with the organosilicon compound. One of ordinary skill in the art recognizes that excessive amounts of water would adversely affect the Uramoto polymer. References cannot be combined where the references teach away from their combination (MPEP § 2145 (D)(2)).

With respect to Kutsuna, it teaches away from the use of water as a solvent during the curing reaction (see paragraph [0052] at page 4). Thus, the assertion by the Office Action that Kutsuna teaches that the specific epoxy resins of present claim 33 are equivalent is limited to systems where water is not present. Again, references are not properly combined where the references teach away from their combination (MPEP § 2145 (D)(2)).

Applicants also traverse the suggestion that the epoxy resins of the present invention are water soluble in the absence of carboxylic acid (either in fact, or inherently as asserted in the present Office Action at page 9). It is well known in the art that the particular epoxy resins of the present invention referred to at page 9 are insoluble in water. The disclosure of Kobayashi (col. 7, at line 43) as it relates to the epoxy resins also reinforces the general concept that epoxy resins are insoluble in water. Applicants invention in part is directed to the discovery that these otherwise typically insoluble or marginally soluble epoxy resins can be made soluble by contacting with a carboxylic acid in an aqueous environment for reasonable times, without substantially initiating polymerization.

For at least the reasons stated above, withdrawal of the rejections under §103 is requested.

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**PATENT  
REPLY FILED UNDER EXPEDITED  
PROCEDURE PURSUANT TO  
37 CFR § 1.116**

### **Conclusion**

Applicants believe that the foregoing constitutes a complete and full response to the Office Action of record. Accordingly, an early and favorable Action is requested respectfully.

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